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Title of Innovation: From Whiteboard to Plasma Screen: How to Leverage Technology for Emergency Department Management

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Date Project Initiated: 01/10/2005

Background: Traditionally the Emergency Department (ED) utilizes a whiteboard to track patient status during each shift. More robust electronic methods are available for accomplishing this task. For example, the Brooke Army Medical Center (BAMC) ED created an Excel spreadsheet which mimicked the capability of the whiteboard. The Excel spreadsheet, however, was a primitive tool for this purpose. MedBase provides an "ED Board" functionality which is quite robust and linked with CHCS for up-to-the-minute patient information.

Methods: An electronic "ED Board" was built that permits users to arrange data in a way that supports the ED business process. The application is displayed on a 42-inch plasma screen suspended from the ceiling over the Administrative counter. It is not easily visible by patients being treated in rooms or treatment locations, but is easily viewed by staff in the work area. The program's primary view is a grid showing one row for each bed in the ED. The grid allows for several data elements including: Bed Number; Patient Name; Patient Age; Complaint; Assigned Doctor, Nurse, and Medic; and Disposition. The grid automatically updates from CHCS data every five minutes, and can be refreshed before the regular 5-minute update occurs, if necessary. If new lab results have been returned, the column showing the patient's name begins flashing. The flashing continues until the user double-clicks the bed name cell for that patient. Patients can be easily moved from one bed to another, discharged, and undischarged. Beds can be added, edited and deleted. Nurses and medics can be assigned to single beds or groups of beds, and different colors can be used to highlight bed rows to indicate team groupings. The grid can be printed at any time for use by the staff, and a Patient Waiting List is generated by retrieving CHCS appointments scheduled for the ED.

Results: A customer satisfaction survey will be completed during November 2005 to elicit response from the ED staff regarding their impressions of the "ED Board" functionality. In addition, the ED currently has a performance improvement initiative to decrease the amount of time it takes a patient to get from check-in to a bed on the ward (if admitted). We will examine if this time has been decreased by the end of November 2005. It is possible that the "ED Board" application has assisted in more appropriate patient management, thus decreasing the patient wait time for admission.

Conclusions: The ED is a fast-paced, constantly changing environment. Bed management has traditionally been done using a write-on/wipe-off whiteboard, but it is important that we leverage current technology to improve this process. Initial anecdotal evidence shows that the BAMC ED staff is satisfied with the functionality that the "ED Board" provides and that they would like to see this functionality brought to CHCS II. Supporting clinicians with technology that can improve their business process is critical in today's healthcare environment. The "ED Board" can be used as a model for how to accomplish this.